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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	Docket No. 91221A
Thomas Joseph Segatta et al	)	Art Unit: 1301
For: TIRE WITH APEX RUBBER	)	Examiner: S Chan
BLEND	)	
Serial No. 07/945,465	)	
Filed: September 16, 1992	)	

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

DECLARATION

Dear Sir:

I, Paul Harry Sandstrom, do declare as follows:

(1) I am listed as an inventor in the above-identified patent application. I was awarded a BS degree in Chemistry from Youngstown State University in 1966 and a Master's degree in Polymer Science from The University of Akron in 1972. I have worked in the field of polymer science as my major job responsibility at The Goodyear Tire & Rubber Company for over 25 years. My current position is Section Head of Compound Technology in the Research Division of Goodyear. As a result of my work at Goodyear, I have been the named inventor or coinventor on over 56 U.S. patents.

(2) I have read U.S. Patent 4,089,360. This patent teaches a laminant composite sheet which is made up of several separate layers of different rubber compounds. The first layer comprises halogenated butyl rubber. The second layer comprises polybutadiene rubber. The third layer comprises natural rubber. Applications for the laminant composite include an innerliner and the chafer area of a tire. This

reference does not suggest using the laminant composite sheet in the apex area of the tire. In addition, rubber compounds conventionally used in the innerliner or chafer area are not used in the apex area. This reference also fails to teach or suggest the use of a high trans 1,4-polybutadiene rubber exhibiting two different melting temperatures.

(3) I have read U.S. Patent 5,174,838. I am the same Paul H. Sandstrom appearing as a named inventor on this patent. This patent relates to a tire having a tread of a cap/base construction where the base rubber is comprised of at least one selected diene rubber and a high trans 1,4-polybutadiene rubber. The primary purpose for dividing a tread into an outer cap portion and an inner underlying base portion is to provide a tread base which will reduce the tire's rolling resistance. The basic properties which must be exhibited by a tread base versus an apex can be summarized in the table below.

TREAD BASE	APEX
High rebound	Low rebound
Moderately low modulus	Very high modulus
Very low viscosity	Very high viscosity
High tear	Low tear
Low hardness	Higher hardness

As can be seen above, a tread base must exhibit high rebound values, a moderately low modulus, low viscosity, high tear, and low hardness. This should be contrasted with the properties for an apex compound. An apex compound should exhibit low rebound, a very high modulus, very high viscosity, low tear values and high hardness.

(4) Based upon the above, it is my opinion that one skilled in the art would not substitute a compound which has a known utility as an innerliner, chafer or tread base for use in a tire as an apex compound. Therefore, to look with 20/20 hindsight to a reference(s) teaching compounds which have utility in the innerliner, tread base or chafer and suggest their suitability in an apex region of a tire is incorrect and misplaced.

(5) The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Paul Harry Sandstrom

Paul Harry Sandstrom

Date 5/19/93